

Appln No. 10/000,142

Amdt date December 22, 2004

Reply to Office action of September 22, 2004

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

Claim 1. (Previously Presented) An optical transmission apparatus comprising:

an array of lasers;

an optical output;

an array of mirrors, each mirror being movable such that light from a laser from the array of lasers directed to a mirror of the array of mirrors is directed to the optical output;

comprising an array of positioning elements, each positioning element coupled to a corresponding mirror of the array of mirrors

wherein each positioning element is configured to move the corresponding mirror from a first position to a second position and from the second position to the first position; and

wherein the positioning element comprises an actuator and a spring.

Claim 2. (Cancelled)

Claim 3. (Cancelled)

Claim 4. (Previously Presented) The optical transmission apparatus of claim 1 wherein a mirror in the second position directs light from a laser to the optical output.

Claim 5. (Original) The optical transmission apparatus of claim 4 wherein only one mirror of the array of mirrors is in

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the second position when light is directed to the optical output.

Claim 6. (Original) The optical transmission apparatus of claim 4 wherein a mirror in the first position does not direct light to the optical output

Claim 7. (Cancelled)

Claim 8. (Previously Presented) The optical transmission apparatus of claim 1 wherein each spring is configured to move a mirror from a first position to a second position and each actuator is configured to move the mirror from the second position to the first position.

Claim 9. (Original) The optical transmission apparatus of claim 8 wherein the mirror in the second position directs light from a laser to the optical output.

Claim 10. (Original) The optical transmission apparatus of claim 9 wherein only one mirror of the array of mirrors is in the second position when light is directed to the optical output.

Claim 11. (Original) The optical transmission apparatus of claim 9 wherein a mirror in the first position does not direct light to the optical element.

Claim 12. (Currently Amended) An optical transmission apparatus comprising:

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an array of single wavelength lasers on a semiconductor substrate, each laser emitting light at a specific wavelength as determined by dimensional variables of each laser;

a lens collimating light from a laser in the array of lasers;

an optical output; and

a moveable mirror, the mirror being moveable to receive the light collimated by the lens from any of a plurality of lasers in the array of lasers, the mirror reflecting the light back to the lens, which passes the light to the optical output

Claim 13. (Original) The optical transmission apparatus of claim 12 wherein the mirror is movable about an axis perpendicular to the array of lasers.

Claim 14. (Original) The optical transmission apparatus of claim 13 wherein the lens is fixed.

Claim 15. (Original) The optical transmission apparatus of claim 12 wherein the optical output comprises a fiber.

Claim 16. (Original) The optical transmission apparatus of claim 12 wherein the optical output is adjacent the array of lasers.

Claim 17. (Original) The optical transmission apparatus of claim 12 wherein the array of lasers has an emitting end from which light is emitted and the optical output has a receiving end in which reflected light is directed into, such that the receiving end of the optical output and the emitting end of the array of lasers face in substantially the same direction.

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Claim 18. (Currently Amended) An optical transmission apparatus comprising:

an array of single wavelength lasers on a semiconductor substrate, each laser emitting light at a specific wavelength as determined by dimensional variables, of each laser;

an optical output; and

a mirror positionable to reflect light at normal incidence from any one of a plurality of lasers in the array of lasers to the optical output.

Claim 19. (Original) The optical transmission apparatus of claim 18 wherein the mirror is movable about an axis perpendicular to the array of lasers.

Claim 20. (Original) The optical transmission apparatus of claim 18 wherein the optical output comprises a fiber.

Claim 21. (Original) The optical transmission apparatus of claim 20 further comprising a lens directing light into the fiber.

Claim 22. (Original) The optical transmission apparatus of claim 20 wherein the optical output is adjacent the array of lasers.

Claim 23. (Original) The optical transmission apparatus of claim 21 wherein the array of lasers has an emitting end from which light is emitted and the fiber has a receiving end in which reflected light is directed into, such that the receiving

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end of the fiber and the emitting end of the array of lasers both face in substantially the first direction.

Claims 24-31 (Cancelled)

Claim 32. (Currently Amended) An optical transmission apparatus comprising:

an array of lasers;

an optical output path for receiving light from a laser in the array of lasers; and

an moveable optical element with a portion of volume in the optical element evacuated to form a first reflective surface and a second reflective surface, the optical element moveable to reflect light from any one of a plurality of lasers in the array of lasers from the first reflective surface to the second reflective surface to the optical output path; and

wherein the optical element is moveable in a direction substantially perpendicular to the array of lasers.

Claim 33. (Cancelled)

Claim 34. (Currently Amended) The optical transmission apparatus of claim ~~33~~32 further comprising a focusing lens, the focusing lens directing light to an optical output in the optical output path.

Claim 35. (Original) The optical transmission apparatus of claim 34 wherein the optical output is a fiber.

Claim 36. (Original) The optical transmission apparatus of claim 35 wherein the optical element is translatable in a direction substantially perpendicular to the fiber.

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Claim 37. (Original) The optical transmission apparatus of claim 36 wherein the number of lasers in the array of lasers is proportional to lengths of the first and second reflective surfaces.

Claim 38. (Original) The optical transmission apparatus of claim 36 wherein the first and second reflective surfaces each have a length that is proportional to length of the array of lasers.

Claim 39. (Original) The optical transmission apparatus of claim 38 wherein the optical element is rotatable around an axis in which the optical element translates.

Claim 40. (Previously Presented) An optical transmission apparatus comprising:

- an array of lasers;

- a focusing lens;

- a movable platform;

- a first mirror and a second mirror coupled to the movable platform, the first and second mirror being separated and angled in opposite directions relative to each other, such that the first mirror reflects light from at least one laser from the array of lasers to the second mirror that reflects light to a focusing lens;

- wherein the first mirror is translatable in a first direction; and

- wherein the first direction is substantially perpendicular to the array of lasers.

Claim 41. (Cancelled)

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Claim 42. (Cancelled)

Claim 43. (Original) The optical transmission apparatus of claim 40 wherein the second mirror is translatable in a first direction.

Claim 44. (Original) The optical transmission apparatus of claim 43 wherein the first direction is substantially perpendicular to the array of lasers.

Claim 45. (Currently Amended) An optical transmission apparatus comprising:

an array of lasers;

an array of lenses, each lens in the array of lenses corresponding to each laser in the array of lasers, and collimating light from the corresponding laser;

a lens focusing light reflected by the second mirror into an optical output; and

an optical element a first mirror and a second mirror, the first mirror having a fixed position relative to the array of lasers and receiving collimated light from the array of lasers, the second mirror moveable to couple light reflected by the first mirror to the lens, with two opposite sloped sides, such that one side mirror reflects light from at least one laser from the array of lasers to another side the other mirror that reflects light to the lens.

Claim 46. (Currently Amended) The optical transmission apparatus of claim 45³² wherein the optical element comprises a prism.

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Claim 47. (Cancelled)

Claim 48. (Currently Amended) The optical transmission apparatus of claim 45 wherein the ~~sides~~mirrors are sloped in opposite directions of each other.

Claims 49-57 (Cancelled)

Claim 58. (Currently Amended) An optical transmission apparatus, comprising:

an array of single wavelength lasers on a semiconductor substrate, each laser emitting light at a specific wavelength as determined by a grating fabricated within each laser;

a lens positioned to focus an optical beam from the array of lasers;

an optical element positionable to receive the focused optical beam from one of the array of lasers and to direct the focused optical beam into an optical output path; and

wherein the optical element is a moveable mirror, the lens has a back focal plane, and the mirror is disposed in the back focal plane of the lens.

Claim 59. (Cancelled)

Claim 60. (Original) The optical transmission apparatus of Claim 58, wherein an optical axis of the focused beam of light is substantially parallel to an optical axis of the optical output path.

Claim 61. (Cancelled)

Claim 62. (Cancelled)